

REMARKS

Claims 1-31 are pending. By this Amendment, independent claims 1, 12, 17 and 27 are amended to insert a comma (","). No new matter is added by the above amendments.

This Amendment should be entered after final rejection at least because: (1) it does not raise any new issues (or the issue of new matter), requiring further search or consideration, because it merely improves the punctuation; (2) it places this application in even better condition for allowance, or at least better condition for appeal; and (3) it does not add any new claims.

Applicant notes with appreciation the identification of allowable subject matter in claims 6-11, 14-16, 21-26 and 29-31. Applicant respectfully submits that all pending claims are in condition for allowance, as detailed below.

Claims 1-5, 12, 13, 17-20, 27 and 28 stand rejected under 35 U.S.C. §103(a) over U.S. 2003/0128889 to Maeda et al. in view of U.S. Patent No. 5,396,282 to Ogikubo. This rejection is respectfully traversed.

As explained in Applicant's July 26, 2004 Amendment, all independent claims of this application are directed to an arrangement in which the visible image forming position of an image forming optical system relative to a transmissive original is determined at which the visible light component of the image light flux is formed on a visible image-capturing device/means, based upon an infrared image signal. Thus, the statement on page 2, lines 6-8 of the January 14 Office Action, that Applicant asserts that Maeda et al. fails to disclose or suggest "determining the position of the image forming optical system" is an incomplete description of Applicant's argument. Applicant has and continues to respectfully submit that Maeda et al. fails to disclose or suggest determining the visible image forming position of the image forming optical system at which the visible light component is formed on the visible image-capturing device/means, based upon an infrared image signal. In particular, all

independent claims of this application recite that the position of the image forming optical system relative to the transmissive original for a visible image forming position at which the visible light component of the image light flux is formed on a visible image-capturing device/means is determined, based upon the infrared image signal.

On page 2, lines 9-11, the Office Action asserts that "[t]he image processing as taught by Maeda '889 uses infrared component to detect defect, to align the visible image, and correct the imaging optical system." This portion of the Office Action does not identify any portion of Maeda et al. to factually support this conclusion; however, it is believed that the Office Action continues to rely upon paragraph [0135] of Maeda et al., which is referenced on page 3 of the Office Action.

Applicant respectfully submits that the Office Action's understanding of Maeda et al. is not correct. Paragraph [0135] of Maeda et al. indicates that "the host computer 1 performs alignment immediately after it has detected defects in step S19", and further refers to size adjustment (because the IR image is larger than the visible light image) and indicates that "[t]he size adjustment includes a method of adjusting the imaging positions upon reading by the scanner 2" Applicant respectfully submits that paragraph [0135] is only discussing defect detection (and correction), and is not disclosing or suggesting that the visible image forming position at which the visible light component is formed on the visible image-capturing device, is being determined based upon the infrared image signal. Rather, this paragraph, particularly when considered in view of the entire Maeda et al. disclosure, clearly is describing alignment of the IR image data to the visible-light image data in order to perform defect detection and correction.

The "alignment" that is performed "immediately after it has detected defects in step S19" is described in paragraphs [0120] - [0130] in conjunction with the flowchart of Figs. 7-13 and the IR and visible-light image data of Figs. 14-17. As described in this portion

of Maeda et al., the IR image of Fig. 14(a) is shifted relative to the visible-light image of Fig. 14(b) multiple times (as illustrated in Figs. 15-17) in order to obtain subtraction values that are summed. The position (between the IR image of Fig. 14(a) and the visible-light image) having the lowest sum total (in the disclosed example, the position of Fig. 16B-2 - see the last sentence of paragraph [0125]), is then determined to be the matching position between the IR and visible-light images, and then defect detection and correction is conducted.

Once the process is completed for each of the R, G and B image data, any desired gradation modification is performed, and then the image data is output for display (see, for example, step S81 in Fig. 13). This process does not determine the position of an image forming optical system relative to a transmissive original for forming a visible image at which the visible light component of the image light flux is formed on a visible image-capturing device/means. Thus, it also does not determine such a position based upon an infrared image signal.

The "alignment", "size adjustments" and "imaging positions" mentioned in paragraph [0135] of Maeda et al. only refer to matching of the IR image data to the visible-light image data in order to perform defect detection and correction. Maeda et al. clearly teaches that the position of the optical system is determined for each of the three visible-light images based only upon information obtained for those respective visible-light image components. IR image data is not used to determine the optical system position that is used to form the visible-light images. See paragraphs [0144] - [0163] and Figs. 18-21 of Maeda et al., which also was discussed on page 18 of Applicant's previous Amendment.

The processing of Maeda et al. described in paragraphs [0144] - [0163], which determines the optical system position for the visible image (without the use of IR image data), takes place during the pre-scan stage in S1 of Fig. 6. See, for example, paragraph

[0106], lines 4-6 and paragraphs [0142] and [0143]. All of this pre-scan processing takes place before S19 and its subsequent steps mentioned in paragraph [0135].

Thus, paragraph [0135] is not describing what is recited in Applicant's claims of this application. Withdrawal of the rejection is requested.

In view of the foregoing, Applicant respectfully submits that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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